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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/466,545

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DARRYL L. GAMEL

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05/19/2004

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EXAMINER

TUGBANG, ANTHONY D

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/466,545

Applicant(s)

GAMEL ET AL.

Examiner

A. Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5-7,9,54-60,62-64 and 71-73 is/are pending in the application.
- 4a) Of the above claim(s) 6,55-60,71-73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 3,5,7,9,54,62-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/30/04 has been entered.

Election/Restrictions

2. Claims 6, 55-60 and 71-73 continue to stand as being withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 20.

Claim Objections

3. Claim 3 is objected to because of the following informalities.

In Claim 3, the term --fiducial-- should be inserted after each occurrence of the term "asymmetric" (1st occurrence at line 8, 2nd occurrence at line 10 and 3rd occurrence at line 12). Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 62-64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 62, the phrase of “the fiducial marker” (line 7) is confusing, misleading and unclear if this is referring to the “fiducial marker” (line 5) of the nest, or the “fiducial marker” (line 6) of the component.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claim 54 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claim 21 of U.S. Patent No. 6,332,269.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of Claim 54 of the instant application are inclusive of the limitations of Claim 21 of U.S. Patent 6,332,269, with the exception of the component having an “alignment-indicating physical asymmetric fiducial marker” as recited in Claim 54 of the instant application. Claim 21 of U.S. Patent No. 6,332,269 recites that the component has a “fiducial

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physical asymmetry”. It is noted that the phrase of “fiducial physical asymmetry” would encompass, or be inclusive of the phrase of an “alignment-indicating physical asymmetric fiducial marker” in which the latter phrase is considered to be an obvious variant of the former phrase.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 3, 5, 7, 54 and 62-64 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawatani 4,733,462.

Regarding Claims 3 and 54, Kawatani discloses a method of placing a component comprising: placing the component 7 into a nest (IC alignment unit 21), the component having leads and an alignment-indicating physically asymmetric fiducial marker (read as the entire surface area of the component 7) including a physically asymmetric portion of a bottom surface of the component, and the nest having an asymmetrically shaped recess 22 (in Fig. 1); detecting whether the physically asymmetric fiducial marker on the component mates with the asymmetric shaped recess 22; comparing the alignment of the component (see col. 4, lines 45+); and placing the component on the substrate 1 when mating of the physically asymmetric fiducial marker with the asymmetrically shaped recess is detected (see Figs. 2-4).

It is noted that the claimed “physically asymmetric portion” of the component is broadly read as the top and side surface areas of the component 7.

Regarding Claims 5 and 7, the positioning pin 13 enables the component to be distinguished when the component is in predetermined alignment and also senses when the component contacts an upper surface of the recess (shown in Fig. 6).

Regarding Claim 62, the claimed “fiducial marker” (line 5) of the nest is read as the inner surface area of the recess 22 and the claimed “fiducial marker” (line 6) of the component is broadly read as the entire surface area of the component 7 with the shape of the component being broadly read as, or is equivalent to, an “alignment-indicating physical shape”. Both of the surface areas of either the component or the nest correspond to a shape that is symmetric such that these shapes can be said to be “an alignment-indicating physical shape”.

Regarding Claim 63, Kawatani further shows that (in Fig. 6), the top surface of the component 7, extends beyond the upper surface of the recess 22, which is detected.

Regarding Claim 64, Kawatani further teaches that the recess corresponds to a beveled edge (anyone of the leads of the component 7) of the component 7.

Claim Rejections - 35 USC § 103

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawatani in view of Sakaguchi et al 5,628,110.

Kawatani discloses the claimed manufacturing method as previously discussed, further including determining whether the fiducial marker is mated. Kawatani does not teach the specific steps of directing, receiving and comparing the radiation pattern.

Sakaguchi teaches directing, comparing and receiving a pattern of radiation (shown in Fig. 2) for the purpose of disregarding defecting components (see col. 6, lines 13+).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Kawatani by including the process steps of Sakaguchi, to positively disregard defective components.

Response to Arguments

11. The applicant's arguments filed in the response on 3/30/04 have been fully considered, but have not been deemed to be found as persuasive.

I. Double Patenting

The double patent rejection above is maintained at least to the extent that the applicants' have not filed a terminal disclaimer and/or have not provided any arguments as to why Claim 54 of the instant application would not be obvious to one of ordinary skill in the art over Claim 21 of U.S. Patent No. 6,332,269.

II. Prior Art

In regards to the merits of Kawatani, it appears that the applicants' are arguing that Kawatani is deficient with respect to the features of "an alignment-indicating physically asymmetric fiducial marker including a physically asymmetric portion of a bottom surface of the component". It is noted that these limitations are now met by Kawatani by the fact that the claimed "alignment-indicating physically asymmetric fiducial marker" can be read as the entire surface area of the component, in which at least the top and side surfaces of the component are

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symmetric in shape and thus, be said to be a “physically asymmetric portion on a bottom surface of the component”.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the prior art above each solve the problems of aligning components.

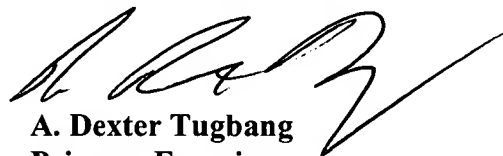
Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



A. Dexter Tugbang
Primary Examiner
Art Unit 3729

May 14, 2004